PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

To:

see form PCT/ISA/220

PCT

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY
(PCT Rule 43*bis*.1)

Date of mailing *(day/month/year)* see form PCT/ISA/210 (second sheet)	
Applicant's or agent's file reference see form PCT/ISA/220	**FOR FURTHER ACTION** See paragraph 2 below
International application No. PCT/US2004/016021	International filing date *(day/month/year)* 21.05.2004
Priority date *(day/month/year)* 07.04.2000	
International Patent Classification (IPC) or both national classification and IPC G06F1/00	
Applicant WASHINGTON UNIVERSITY	

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☒ Box No. II Priority
- ☒ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☒ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43*bis*.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. **FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will usually be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA"). However, this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notifed the International Bureau under Rule 66.1*bis*(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of three months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA:

European Patent Office - P.B. 5818 Patentlaan 2
NL-2280 HV Rijswijk - Pays Bas
Tel. +31 70 340 - 2040 Tx: 31 651 epo nl
Fax: +31 70 340 - 3016

Authorized Officer

Segura, G

Telephone No. +31 70 340-4874

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/US2004/016021

Box No. I Basis of the opinion

1. With regard to the **language**, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

   ☐ This opinion has been established on the basis of a translation from the original language into the following language , which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).

2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:

   a. type of material:

   ☐ a sequence listing

   ☐ table(s) related to the sequence listing

   b. format of material:

   ☐ in written format

   ☐ in computer readable form

   c. time of filing/furnishing:

   ☐ contained in the international application as filed.

   ☐ filed together with the international application in computer readable form.

   ☐ furnished subsequently to this Authority for the purposes of search.

3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.

4. Additional comments:

Box No. II Priority

1. ☒ The validity of the priority claim has not been considered because the International Searching Authority does not have in its possession a copy of the earlier application whose priority has been claimed or, where required, a translation of that earlier application. This opinion has nevertheless been established on the assumption that the relevant date (Rules 43*bis*.1 and 64.1) is the claimed priority date.

2. ☐ This opinion has been established as if no priority had been claimed due to the fact that the priority claim has been found invalid (Rules 43*bis*.1 and 64.1). Thus for the purposes of this opinion, the international filing date indicated above is considered to be the relevant date.

3. Additional observations, if necessary:

Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability

The questions whether the claimed invention appears to be novel, to involve an inventive step (to be non obvious), or to be industrially applicable have not been examined in respect of:

☐ the entire international application,

☒ claims Nos. 24-44

because:

☐ the said international application, or the said claims Nos. relate to the following subject matter which does not require an international preliminary examination *(specify)*:

☐ the description, claims or drawings *(indicate particular elements below)* or said claims Nos. are so unclear that no meaningful opinion could be formed *(specify)*:

☐ the claims, or said claims Nos. are so inadequately supported by the description that no meaningful opinion could be formed.

☒ no international search report has been established for the whole application or for said claims Nos. 24-44

☐ the nucleotide and/or amino acid sequence listing does not comply with the standard provided for in Annex C of the Administrative Instructions in that:

the written form ☐ has not been furnished

☐ does not comply with the standard

the computer readable form ☐ has not been furnished

☐ does not comply with the standard

☐ the tables related to the nucleotide and/or amino acid sequence listing, if in computer readable form only, do not comply with the technical requirements provided for in Annex C-*bis* of the Administrative Instructions.

☐ See separate sheet for further details

Box No. IV Lack of unity of invention

1. ☒ In response to the invitation (Form PCT/ISA/206) to pay additional fees, the applicant has:

   ☐ paid additional fees.

   ☐ paid additional fees under protest.

   ☒ not paid additional fees.

2. ☐ This Authority found that the requirement of unity of invention is not complied with and chose not to invite the applicant to pay additional fees.

3. This Authority considers that the requirement of unity of invention in accordance with Rule 13.1, 13.2 and 13.3 is

   ☐ complied with

   ☒ not complied with for the following reasons:

   see separate sheet

4. Consequently, this report has been established in respect of the following parts of the international application:

   ☐ all parts.

   ☒ the parts relating to claims Nos. 1-23

Box No. V Reasoned statement under Rule 43*bis*.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes:	Claims	20
	No:	Claims	1,9
Inventive step (IS)	Yes:	Claims	
	No:	Claims	1,9,20
Industrial applicability (IA)	Yes:	Claims	1,9,20
	No:	Claims	

2. Citations and explanations

   see separate sheet

Reference is made to the following documents:

D1: EP-A-0 887 723 (INTERNATIONAL BUSINESS MACHINES CORPORATION) 30 December 1998 (1998-12-30)
D2: US-A-5 943 421 (GRABON ET AL) 24 August 1999 (1999-08-24)
D3: EP-A-0 880 088 (MITSUBISHI CORPORATION) 25 November 1998 (1998-11-25)

Re Item IV
Lack of unity of invention

This Authority considers that there are 2 inventions covered by the claims indicated as follows:

I: Claims 1-23 Securing the decryption step.
II: Claims 24-44 Search acceleration.

The reasons for which the inventions are not so linked as to form a single general inventive concept, as required by Rule 13.1 PCT, are as follows:

The prior art has been identified as D1. This document discloses a method for securely sharing data with authorized parties, wherein the data to be shared is stored in a database ("external storage device", column 4, line 27) in a first encrypted format ("CSS encrypted original data", column 4, line 36), the method comprising: providing a programmable logic device ("central processing unit", column 4, lines 9-10) for connection to the database, wherein the programmable logic device is configured to receive a stream of encrypted data from the database ("received encrypted", column 4, line 21-22), decrypt the received encrypted data stream to create decrypted data ("descrambling", column 4, lines 20-21), and encrypt the decrypted data in a second encrypted format ("re-encrypted", column 4, lines 37-38); and sharing the data of the second encrypted format by communicating it to an authorized party ("transferred", column 5, lines 6-8).

From the comparison between D1 and the 1st invention (see claim 4), the features which are known from D1 are the following: a memory device in communication with the

programable logic device ("memory 25", figure 1).
So that the following technical feature of claim 4 can be seen to make a contribution over the same prior art (in the sense of PCT Rule 13.2): the content of the memory device is accessible only by the programmable logic device and the programmable logic device is further configured to store at least a portion of the decrypted data in the memory device. From these Special Technical Features, the technical problem 1 to be solved may therefore be regarded as: how to secure the decryption step.

From the comparison between D1 and the 2nd invention (see claim 24), the features which are known from D1 are the following: a device for processing data received from a mass storage medium ("external storage device", column 4, line 27), the device comprising a programmable logic device ("central processing unit", column 4, lines 9-10) in communication with the mass storage medium comprising compressed data stored therein ("data compressed", column 3, line 24), the programmable logic device being configured to receive continous stream of compressed data from the mass storage medium ("original data arrives", column 4, line 26), and decompress the received compressed data stream to create a stream of decompressed data ("decoding of a clear compressed video/data signal", column 6, lines 12-13).

So that the following technical features of claim 24 can be seen to make a contribution over the same prior art (in the sense of PCT Rule 13.2): perform a search operation within the stream of decompressed data. From these Special Technical Features, the technical problem 2 to be solved may therefore be regarded as: how to perform a high speed search.

The above analysis shows that claimed invention 1 and invention 2 do not have same Special Technical Features as required by PCT Rule 13.2.

Moreover, the technical problems are not the same and therefore the comparison between the claimed inventions does not show any corresponding Special Technical Feature. Therefore there is no technical relationship among the 2 inventions involving one or more of the same or corresponding special technical features. As a result, claimed invention 1 and invention 2 fail to demonstrate a single general inventive concept as required by PCT Rule 13.1.

Re Item V

Reasoned statement with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claims 1 and 9 is not new in the sense of Article 33(2) PCT.

1.1 The document D1 discloses (the references in parentheses applying to this document):

A method for securely sharing data with authorized parties, wherein the data to be shared is stored in a database ("external storage device", column 4, line 27) in a first encrypted format ("CSS encrypted original data", column 4, line 36), the method comprising: providing a programmable logic device ("central processing unit", column 4, lines 9-10) for connection to the database, wherein the programmable logic device is configured to receive a stream of encrypted data from the database ("received encrypted", column 4, line 21-22), decrypt the received encrypted data stream to create decrypted data ("descrambling", column 4, lines 20-21), and encrypt the decrypted data in a second encrypted format ("re-encrypted", column 4, lines 37-38); and sharing the data of the second encrypted format by communicating it to an authorized party ("transferred", column 5, lines 6-8).

Hence, document D1 discloses all the technical features of claim 1 and therefore claim 1 lacks novelty.

1.2 The same reasoning applies, mutatis mutandis, to the subject-matter of the corresponding independent claim 9 (device), which therefore is also considered not new.

2. The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claim 20 does not involve an inventive step in the sense of Article 33(3) PCT, for the following reasons:

The subject matter of independent claim 20 differs from this known D1 in that it provides a reconfigurable logic device and the second encrypted format is delivered to **a requester**. Both features are juxtaposed and merely represent design choices so that claim 20 lacks an inventive step.

3. Dependent claims 2-8, 10-19 and 21-23 do not contain any features which, in combination with the features of any claim to which they refer, meet the requirements of the PCT in respect of novelty and/or inventive step, see documents D1-D3 and the corresponding passages cited in the search report.